

IN THE CLAIMS

Please add new claims 23-42. Please amend Claims 1, 16 and 21 as follows:

1. (Currently Amended) ~~A disc augmentation~~ An intervertebral disc system configured to repair or rehabilitate an intervertebral disc comprising:

at least one annulus augmentation device; and

at least one nuclear augmentation ~~material~~ device having a surface, wherein a substantial portion of said surface is adapted to not be in contact with said annulus augmentation device.

2. (Original) The system of Claim 1, wherein said annulus augmentation device prevents the extrusion of materials from within the space normally occupied by the nucleus pulposus and inner annulus fibrosus.

3. (Original) The system of Claim 1, wherein said annulus augmentation device is a barrier.

4. (Original) The system of Claim 1, wherein said nuclear augmentation material restores diminished disc height and pressure.

5. (Original) The system of Claim 1, wherein said nuclear augmentation material induces the growth or formation of material within the nuclear space.

6. (Original) The system of Claim 1, wherein said annulus augmentation device is removable.

7. (Original) The system of Claim 1, wherein said nuclear augmentation material is removable.

8. (Original) The system of Claim 1, wherein said nuclear augmentation material comprises a pharmacologically active agent.

9. (Original) The system of Claim 1, wherein said nuclear augmentation material is selected from the group consisting of: liquids, gels, solids, and gases.

10. (Original) The system of Claim 1, wherein said nuclear augmentation material is capable of changing phase.

11. (Original) The system of Claim 9, wherein said liquid comprises a fluid nuclear augmentation material selected from the group consisting of: steroids, antibiotics, tissue necrosis factors, tissue necrosis factor antagonists, analgesics, growth factors,

genes, gene vectors, hyaluronic acid, non-crosslinked collagen, fibrin, liquid fat, oils, synthetic polymers, polyethylene glycol, liquid silicones, synthetic oils, and saline.

12. (Original) The system of Claim 9, wherein said gel is a hydrogel.

13. (Original) The system of Claim 12, wherein said hydrogel is selected from the group consisting of: acrylonitriles, acrylic acids, polyacrylimides, acrylimides, acrylimidines, polyacrylonitriles, and polyvinylalcohols.

14. (Original) The system of Claim 9, wherein said solid is cube-like, spheroid, disc-like, ellipsoid, rhombohedral, cylindrical, or amorphous.

15. (Original) The system of Claim 9, wherein said solid is in powder form.

16. (Currently Amended) The system of Claim 9, wherein said solid is selected from the group consisting of: titanium, stainless steels, nitinol, cobalt, chrome, resorbable material, polyurethane, polyester, PEEK, PET, FEP, PTFE, ePTFE, PMMA, nylon, carbon fiber, ~~Delrin~~ DELIN (acetal), polyvinyl alcohol gels, polyglycolic acid, polyethylene glycol; silicone gel, silicone rubber, vulcanized rubber, gas filled vesicles, bone, hydroxy apatite, cross-linked collagen, muscle tissue, fat, cellulose, keratin, cartilage, protein polymers, transplanted nucleus pulposus, bioengineered nucleus pulposus, transplanted ~~anulus~~ anulus fibrosus and bioengineered ~~anulus~~ anulus fibrosus.

17. (Original) The system of Claim 9, wherein said gel is impregnated or coated with one or more biologically active compounds.

18. (Original) The system of Claim 17, wherein said biologically active compound is selected from the group consisting of: drug carriers, genetic vectors, naked genes, therapeutic agents, growth renewal agents, growth inhibitory agents, analgesics, anti-infectious agents, and anti-inflammatory drugs.

19. (Original) The system of Claim 9, wherein said solid is impregnated or coated with at least one biologically active compound.

20. (Original) The system of Claim 19, wherein said biologically active compound is selected from the group consisting of: drug carriers, genetic vectors, naked genes, therapeutic agents, growth renewal agents, growth inhibitory agents, analgesics, anti-infectious agents, and anti-inflammatory drugs.

21. (Currently Amended) A method of repairing or rehabilitating an intervertebral disc by augmentation comprising:

inserting at least one annulus augmentation device; and

inserting at least one nuclear augmentation material, wherein said annulus augmentation device encapsulates only a portion of said nuclear augmentation material.

22. (Original) The method of Claim 21, wherein said nuclear augmentation material conforms to healthy regions of the annulus while said annulus augmentation device shields weaker regions of the annulus.

23. (New) An intervertebral disc system comprising:

an annulus augmentation device; and

a nucleus augmentation device;

wherein said annulus augmentation device encapsulates only a portion of said nucleus augmentation device.

24. (New) The system of Claim 23, wherein said annulus augmentation device prevents the extrusion of materials from within the space normally occupied by the nucleus pulposus and inner annulus fibrosus.

25. (New) The system of Claim 23, wherein said annulus augmentation device is a barrier.

26. (New) The system of Claim 23, wherein said nuclear augmentation material restores diminished disc height and pressure.

27. (New) The system of Claim 23, wherein said nuclear augmentation material induces the growth or formation of material within the nuclear space.

28. (New) The system of Claim 23, wherein said annulus augmentation device is removable.

29. (New) The system of Claim 23, wherein said nuclear augmentation material is removable.

30. (New) The system of Claim 23, wherein said nuclear augmentation material comprises a pharmacologically active agent.

31. (New) The system of Claim 23, wherein said nuclear augmentation material is selected from the group consisting of: liquids, gels, solids, and gases.

32. (New) The system of Claim 23, wherein said nuclear augmentation material is capable of changing phase.

33. (New) The system of Claim 31, wherein said liquid comprises a fluid nuclear augmentation material selected from the group consisting of: steroids, antibiotics, tissue necrosis factors, tissue necrosis factor antagonists, analgesics, growth factors, genes, gene vectors, hyaluronic acid, non-crosslinked collagen, fibrin, liquid fat, oils, synthetic polymers, polyethylene glycol, liquid silicones, synthetic oils, and saline.

34. (New) The system of Claim 31, wherein said gel is a hydrogel.

35. (New) The system of Claim 34, wherein said hydrogel is selected from the group consisting of: acrylonitriles, acrylic acids, polyacrylimides, acrylimides, acrylimidines, polyacrylonitriles, and polyvinylalcohols.

36. (New) The system of Claim 31, wherein said solid is cube-like, spheroid, disc-like, ellipsoid, rhombohedral, cylindrical, or amorphous.

37. (New) The system of Claim 31, wherein said solid is in powder form.

38. (New) The system of Claim 31, wherein said solid is selected from the group consisting of: titanium, stainless steels, nitinol, cobalt, chrome, resorbable material, polyurethane, polyester, PEEK, PET, FEP, PTFE, ePTFE, PMMA, nylon, carbon fiber, DELRIN (acetal), polyvinyl alcohol gels, polyglycolic acid, polyethylene glycol, silicone gel, silicone rubber, vulcanized rubber, gas filled vesicles, bone, hydroxy appetite, cross-linked collagen, muscle tissue, fat, cellulose, keratin, cartilage, protein polymers, transplanted nucleus pulposus, bioengineered nucleus pulposus, transplanted annulus fibrosus and bioengineered annulus fibrosus.

39. (New) The system of Claim 31, wherein said gel is impregnated or coated with one or more biologically active compounds.

40. (New) The system of Claim 39, wherein said biologically active compound is selected from the group consisting of: drug carriers, genetic vectors, naked genes, therapeutic agents, growth renewal agents, growth inhibitory agents, analgesics, anti-infectious agents, and anti-inflammatory drugs.

41. (New) The system of Claim 31, wherein said solid is impregnated or coated with at least one biologically active compound.

42. (New) The system of Claim 41, wherein said biologically active compound is selected from the group consisting of: drug carriers, genetic vectors, naked genes,

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therapeutic agents, growth renewal agents, growth inhibitory agents, analgesics, anti-infectious agents, and anti-inflammatory drugs.
